Page 1

Thursday, October 14, 2010 12:42:09 PM D3391-013

Item ID:

Revision ID:

Item Name:

Mid Tube Assembly

Start Date:

10/14/2010

Start Qty: 1.00

Reg'd Qty: 1.00



Accept



Setup Start





**Cust Item ID: Required Date:** 10/22/2010

Date:

**Customer:** 

Reference:

Approvals:	Process	Plan
p. p		

Tooling: SPC (Y/N): Date:

Date:

Start



Stop

Sequence ID/ Work Center ID Operation Description Set Up/ **Run Hours**  Tool ID

Tool # Plan Code

Reject Accept **Qty** 

**Qty** 

Run

Reject Number

Insp. Stamp

Draw Nbr

**Revision Nbr** 

D3391

Rev H

Skidtubes

001

Skidtubes

Skidtubes

Memo

0.00

0.00

1-Cut tube to finish length as per Dwg D3391

2-Identify as D3391-013

3-Drill pilot holes using DT8796 (including "B" holes) and drill only 1 fwd saddle hole on one side only as per Dwg D3391

4-Open saddles and GHW holes to Ø0.375" exept for fwd saddle hole of detail

5-Remove .030" from Fwd indexing Ridge as per Dwg D3391

6-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391

7-Deburr

8-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker,

9-Open wearplate holes of D3391-013 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J", do not open wearplate holes of section "J"

10-Open wearplate holes of D3391-013 assembly detail section H-H to Ø0.297" (20 holes) as per Dwg D3391



W/O:		WORK ORDER CHANGES	WORK ORDER CHANGES								
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、Resolution:		Disposition:	QA: N/C Closed:	Date:

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DATE STEP	STEP	Section A	Initial Chief Eng		<b>Description</b> Chief Eng	Sign & Date	Section C		
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## 30rder ID 62973

1 ... . October 14, 2010 12:42:09 PM



Item ID:

D3391-013

Revision ID:

Item Name:

Mid Tube Assembly

**Start Date:** 

10/14/2010

QC: \_\_\_\_

Start Qty: 1.00 **Required Date:** 10/22/2010

Req'd Qty: 1.00





Setup Start

Stop



**Cust Item ID:** 

Customer:

Reference:

Approvals:

Process Plan:

Date: Date:

Tooling:

SPC (Y/N):

Date:

Date:

Stop

Sequence ID/ Work Center ID Operation Description

Set Up/ Run Hours Tool ID

Tool # Plan

Accept Code Qty

Reject Qty

Run

Reject Number

Insp. Stamp

11-Open .375" holes to .438" \*\*\*do not open fwd saddle holes\*\*\*

12- Locate electric step holes at 39.6875" from fwd end and drill using DT 9612

13-Locate D3391-021 in D3391-023 at 9.00" (see view z-z)

14- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previusly drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previusly tranfer drilled pilot holes in D3391-013/-011 to 0.438" dia. in D3391-011

15- Transfer drill 2 wearplate holes into D3391-011 using DT8217, locating from two previously drilled holes, drill remaining wearplate holes into D3391-011.

16-Locating from two fwd wearplate holes drill remaining 6 wearplte holes in D3391-011 using DT8937

17- Open 2 fwd wearplate holes in D3391-013 to .250" dia.

18- counterbore two aft wearplate holes in D3391-011 as per dwg

19- Open 12 wearplate holes in D3391-011 to 0.297" dia.

20- Deburr and blow out all chips from inside tube

BE 19/12/01



Dart A	Aeros	pace	Ltd
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W/O:		WORK ORDER CHANGES										
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## Work Order ID 62973

Page 3

· Thursday, October 14, 2010 12:42:09 PM

Item ID:

D3391-013

QC:

**Revision ID:** Item Name:

Mid Tube Assembly

**Start Date:** 

10/14/2010

Start Qty: 1.00

Required Date: 10/22/2010

Req'd Qty: 1.00



Accept



Run

Setup Start





Cust Item ID:

**Customer:** 

Reference:

Approvals:

Process Plan:

Date: Date:

Tooling: SPC (Y/N): Date:

Date:

Start

Stop



Sequence ID/ Work Center ID

110

QC

Quality Control

Operation Description

QC5- Inspect part completeness to step on W/O

Memo

Set Up/ **Run Hours** 

20012/01

Tool ID

Tool # Plan Code

Accept Qty

Reject **Qty** 

Reject Insp. Number Stamp

120

HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

Memo

0.00

130

Quality Control

QC3- Inspect Part Finish

Memo

0.00

0.00

1 & BE 19/12/02

W/O:		WORK ORDER CHANGES											
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#### · Work Order ID 62973

Page 4

Thursday, October 14, 2010 12:42:09 PM

Item ID:

D3391-013

Accept



Setup Start



Stop

Item Name: **Start Date:** 

Revision ID:

10/14/2010

Mid Tube Assembly

Start Qty: 1.00

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

**Required Date: 10/22/2010** 

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ **Work Center ID** 

140

Skidtubes

Skidtubes

Operation Description

Skidtubes

Set Up/ **Run Hours** 

0.00

Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Reject Insp. Stamp Number

1- Open holes to finish size as per dwg.

2- Prepare for welding

QC5- Inspect part completeness to step on W/O

3- Bond web in place as per Dwg D3391 & QSI 015.

\*\*\*\*\*\*Ensure Web Aligment \*\*\*\*\* A/R Sikaflex Batch: M 116040 Exp. date: 11-9-30 0.00

150

Quality Control

QC

Memo

Inspect each insert using DT8821

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W/O:			WORK ORDER (	WORK ORDER CHANGES									
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## Work Order ID 62973



Page 5

· Thursday, October 14, 2010 12:42:09 PM

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D3391-013

Accept



Setup Start

Stop



**Revision ID:** 

Item Name:

Mid Tube Assembly

**Start Date:** 

**Required Date: 10/22/2010** 

10/14/2010

Start Qty: 1.00 Req'd Qty: 1.00 -

Cust Item ID:

**Customer:** 

Reference:

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Process Plan: \_\_\_\_\_ Date: \_\_\_\_

Operation

Description

Skidtubes

Tooling:

Date:

Tool ID

Run Start

Reject

Qty

Accept

**Qty** 



Date:

SPC (Y/N):

Set Up/

**Run Hours** 

Date:

Tool#

Plan

Code

Stop

Insp.

Stamp

Reject

Number

Sequence ID/

Work Center ID

160

Skidtubes Skidtubes

0.00

1-Weld crossbolt spacer as per day D3391 & QSI 004
A/R ALUM Batch: M/12/08

2-grind weld flush

BE 10/12/08

3- Transfer drill electric step pilot holes only from D3391-013 into D3391-015

4- Open electric step holes 0.391"per dwg D3391 (section L-L.)

5- Open electric step holes 0.297"per dwg D3391 (section M-M)

6- Open elecrtic step holes 0.250" per dwg D3391 (section LL-LL)

170

QC10- Inspect visual per QS1004- ground welds

11105/09

(K)

Memo

Quality Control

W/O:		WORK ORDER CHANGES									
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#### Work Order ID 62973

Thursday, October 14, 2010 12:42:09 PM



Page 6

Item ID:

D3391-013

Accept

Setup Start



**Revision ID:** 

Item Name:

Mid Tube Assembly

**Start Date:** 

**Required Date:** 10/22/2010

10/14/2010

Start Qty: 1.00

Req'd Qty: 1.00



**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

**Process Plan:** 

Date: Date:

Tooling: SPC (Y/N):

Date:

Date:

Start

Stop

Stop



Sequence ID/ **Work Center ID** 

180

Quality Control

Operation **Description** 

QC5- Inspect part completeness to step on W/O

Set Up/ **Run Hours** 

0.00

Sulcoton

**Tool ID** 

Tool # Plan Code

Accept Qty

Reject Qty

Run

Reject Number Stamp

Insp.

185

HandFinish

Hand Finishing

Pressure Wash per QS1005 4.3

Memo

0.00

Memo

0.00

AND REALODINE AS PER PAR09-043

190

Powdercoat

N1116964

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

\*\*\*Use paint screw of mast inserts.\*\*\*
START TIME: OVEN TEMPERATURE:

W/O:			WORK ORDER CHANGES												
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#### Work Order ID 62973

**Required Date:** 10/22/2010

Page 7

· Thursday, October 14, 2010 12:42:09 PM

Item ID:	
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D3391-013

Accept



Setup Start

Stop



Revision ID:

Item Name:

Mid Tube Assembly

**Start Date:** 

10/14/2010

QC:

Start Qty: 1.00

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

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Process Plan:

Date:

Date:\_\_\_\_

Tooling:

SPC (Y/N):

Date:

Date:

Run Start

Stop



Sequence ID/ Work Center ID

200



QC

Quality Control

Operation Description

QC3- Inspect Part Finish

Memo

Set Up/ **Run Hours** 

0.00

0.00

0.00

0.00

**Tool ID** 

Tool # Plan Code Accept Qty

Reject Qty

Reject Number

Insp. Stamp

1105/11

210



Skidtubes Skidtubes

Skidtubes

Memo

1- insert D3391-011 into D3391-13

2- insert T-pins into first and third fwd saddle holes

3- ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to 0.500" as per DSI 9364

4- remove T-pins and locate DT9415 from first and third crossbolt hole using Tpins and clekos

5- ON 2ND SIDE ONLY ream out 2nd and forth saddle hole to 0.499". Remove DT9415

6- deburr, re-alodine and blow out chips

7- press fit D3591-1 spacers using DT9416 starting from 0.500" side

1 & W 11/25/11

W/O:			٧	VORK ORDER CHANGE	S				· · · · · · · · · · · · · · · · · · ·
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#### Work Order ID 62973

**Required Date: 10/22/2010** 

Page 8

· Thursday, October 14, 2010 12:42:09 PM

Item ID:

D3391-013

Accept



Setup Start

Stop

**Revision ID:** 

Item Name:

Mid Tube Assembly

Start Date:

10/14/2010

Start Qty: 1.00

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Tool ID

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Tool # Plan

Code

Date:

Accept

Qty

Run

Stop

Reject

**Qty** 

Start



Insp.

Sequence ID/ Work Center ID

220

Quality Control

Operation Description

QC5- Inspect part completeness to step on W/O

Set Up/ Run Hours

0.00

Dulos/12

Memo

230

240

HandFinish

Hand Finishing

HandFinishing

Memo

0.00

0.00

\_Install inserts

Memo

0.00

Quality Control

QC5- Inspect part completeness to step on W/O

Inspect thread of each insert using DT8821

Stamp Number

Reject

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W/O:			V	ORK ORDER CHANG	ES				_	, ,						
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Work	Order	ID	62973

Page 9

· Thursday, October 14, 2010 12:42:09 PM

Item ID:

D3391-013

Accept



Setup Start

Stop



**Revision ID:** 

Start Date:

Item Name: Mid Tube Assembly

**Required Date:** 10/22/2010

10/14/2010

QC:

Start Qty: 1.00

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

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Process Plan:

Date:

**Tooling:** 

Date:

Start Run

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ **Work Center ID** 

250

HandFinish

HandFinishing

Operation

Description

Memo

Set Up/ **Run Hours** 

0.00

0.00

Tool ID

Tool # Plan Accept Qty Code

Reject Qty

Reject Insp. Number

1 6 H wos/ 11

Stamp

Hand Finishing

Assemble as per dwg D3391

QC5- Inspect part completeness to step on W/O

Identify as per dwg & Stock Location: \_\_\_\_\_\_/O

Dul05/12

260

Quality Control

Memo

270

Packaging

Memo

0.00 DUIZ-742-041 | BG2963

d III 11/05/1

0.00

Packaging

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W/O:			V	VORK ORDER CHAN	IGES						
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#### Work Order ID 62973

Page 10

Thursday, October 14, 2010 12:42:09 PM

Item ID:

D3391-013

**Revision ID:** 

Item Name:

Mid Tube Assembly

**Start Date:** 

10/14/2010

Start Qty: 1.00 **Required Date: 10/22/2010** 

Operation

Req'd Qty: 1.00



Accept



Setup Start

Stop

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

Process Plan:

QC:

Date:

Date:

Tooling:

SPC (Y/N):

Set Up/

Date:

Date:

Start Run

Stop



Sequence ID/

Work Center ID

280

Description

QC21- Final Inspection - Work Order Release

Run Hours

0.00

Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Reject Number

Insp. Stamp

Quality Control

Memo

0.00

W/O:			W	ORK ORDI	ER CHANGE	IGES								
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Work Order ID: 62973

Parent Item:

D3391-013

Parent Item Name: Mid Tube Assembly



**Start Date: 10/14/2010** 

**Required Date: 10/22/2010** 

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP A□05.12.13□New Issue□EC

IPP B□06.02.09□Dwg rev.D EC

IPP Rev:06-03-28 Update Manufacturing Instructions JLM□□

IPP rev D 07.03.14 dwg Rev F EC

IPP Rev:E ECN 1056 07-11-13 DD verified by: EC

IPP Rev:F 08-07-28 chg 0.332" to 0.391" dim. hole in comment DD verified

by:EC

IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC IPP rev J 10.03.30 revised process, added D3391-015 to pick list EC verified: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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Skidtube Extrusion

Location Loc Code Loc Oty LG 122 35 37065 87

10-10-29

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W/O:			WO	RK ORDER CHAN	GES					
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#### **Picklist Print**

Page 2

Thursday, October 14, 2010 12:42:15 PM

Work Order ID: 62973 Parent Item: D3391-013 Parent Item Name: Mid Tube Assembly **Required Date: 10/22/2010 Start Date:** 10/14/2010 Start Qty: 1.00 Required Qty: 1.00 MS27039C4-08 100 Purchased No Each 124.0000 uloster **SCREW** Location Loc Qty Loc Code ST293 124 114472 114721 100 17831 20 D3391-011 140 0.0000 Manufactured No Each Fwd Tube Assembly D3391-015 Manufactured No 160 Each 0.0000 362955 Aft Tube Assembly D3681-1 160 Each 28.0000 12 Manufactured Spacer Location Loc Qty Loc Code LG 28 56802 14 57656 14 D3389-1 210 Each 4.0000 Manufactured Web Location Loc Oty Loc Code 62014

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W/O:			W	ORK ORDER CHAN	GES				á *				
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Thursday, October 14, 2010 12:42:15 PM

Work Order ID: 62973 Parent Item: D3391-013 Parent Item Name: Mid Tube Assembly **Required Date: 10/22/2010** Start Date: 10/14/2010 Required Qty: 1.00 Start Qty: 1.00 ALS4-1032-225 Purchased Each 4,860.000 10 10 Insert Location Loc Oty Loc Code PK011 4860 110768 4860 ALS4-428-165 230 107.0000 No Each Purchased 1105/11 Inserts Location Loc Qty Loc Code FP 6989 7 ST282 100 100 114172 D3591-1 230 35.0000 Manufactured No Each Bushing Location Loc Qty Loc Code ST072 35 47121 2 57350 33 ALS4-1032-130 250 26 Purchased Each 969.0000 26 No 11051 Insert Location Loc Oty Loc Code PKG11 920 920 114723 ST282 10 110511 10 ST381 39 114654 39 M 11733

W/O:			W	ORK ORDER CHANG	ES				
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Work Order ID: 62973 Parent Item: D3391-013 Parent Item Name: Mid Tube Assembly **Required Date: 10/22/2010** Start Date: 10/14/2010 Required Qty: 1.00 Start Qty: 1.00 AN3C4A 250 Each 1,361.000 10 10 **BOLT** Location Loc Oty Loc Code ST303 115438 ST350 1358 114108 14 114416 12 114523 2 115300 330 115589 1000 AN960C10L NAS1149C0332 Purchased 250 Each 29.0000 10 washer Location Loc Oty Loc Code ST245 29 107534 29 AN960C416L 250 Each 180.0000 Purchased No NAS14900432R M116900 Location Loc Oty Loc Code FG 104925 44 ST346 136 106785 10 107008 10

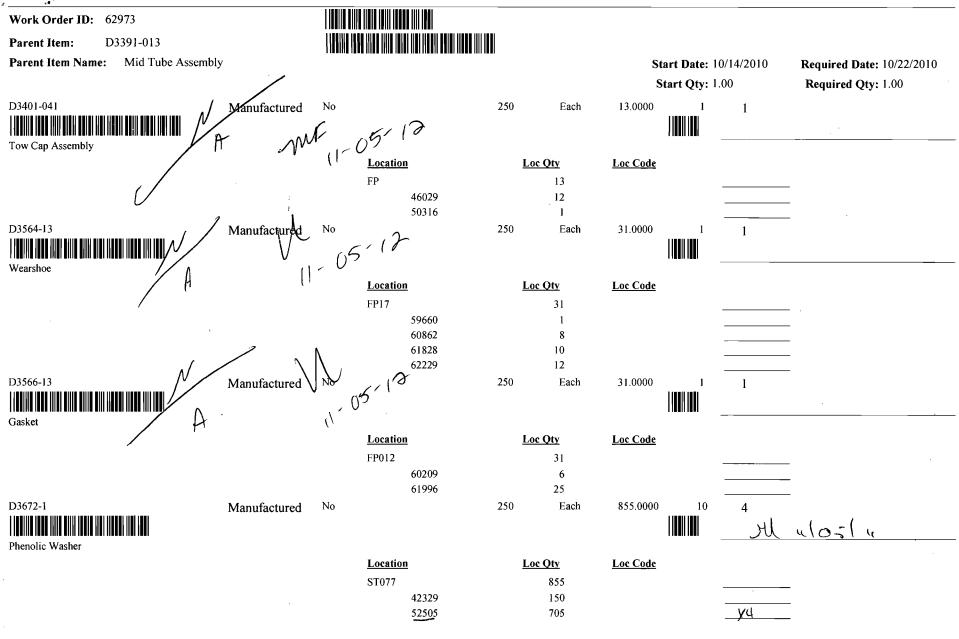
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## **Picklist Print**

Thursday, October 14, 2010 12:42:15 PM

Page 6

Work Order ID: 62973

Parent Item:

D3391-013

Parent Item Name: Mid Tube Assembly



**Start Date:** 10/14/2010

**Required Date: 10/22/2010** 

Start Qty: 1.00

Required Qty: 1.00

D3672-3

Phenolic Washer

Manufactured No 250

Each 527.0000

MS27039C1-09

Purchased

No

Location ST077 47023 57704

511 250 Each

Loc Oty

Loc Qty

527

16

Loc Code

TA64176

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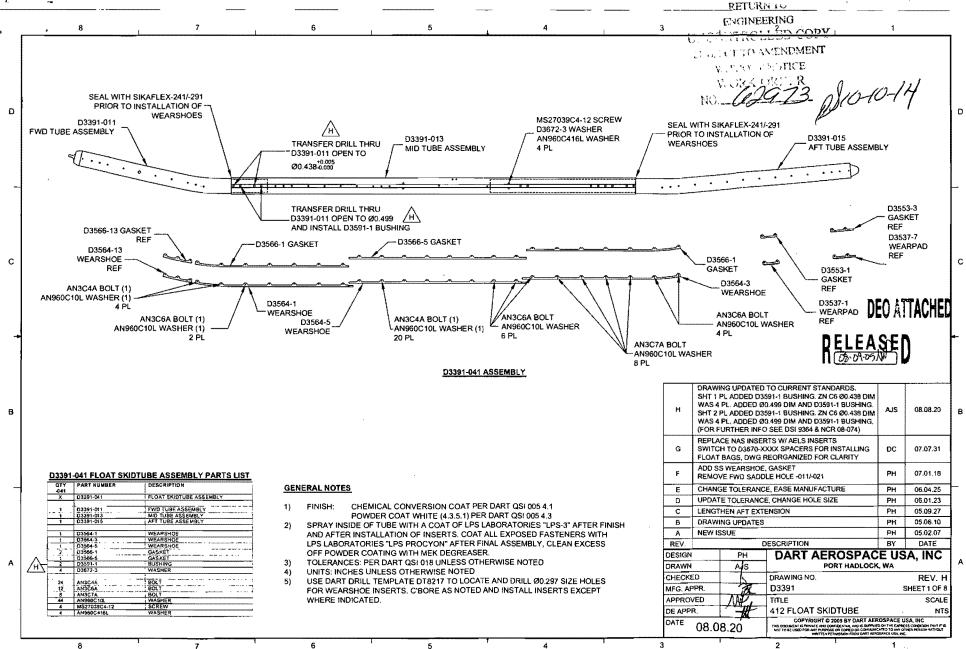
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Location ST293 17831

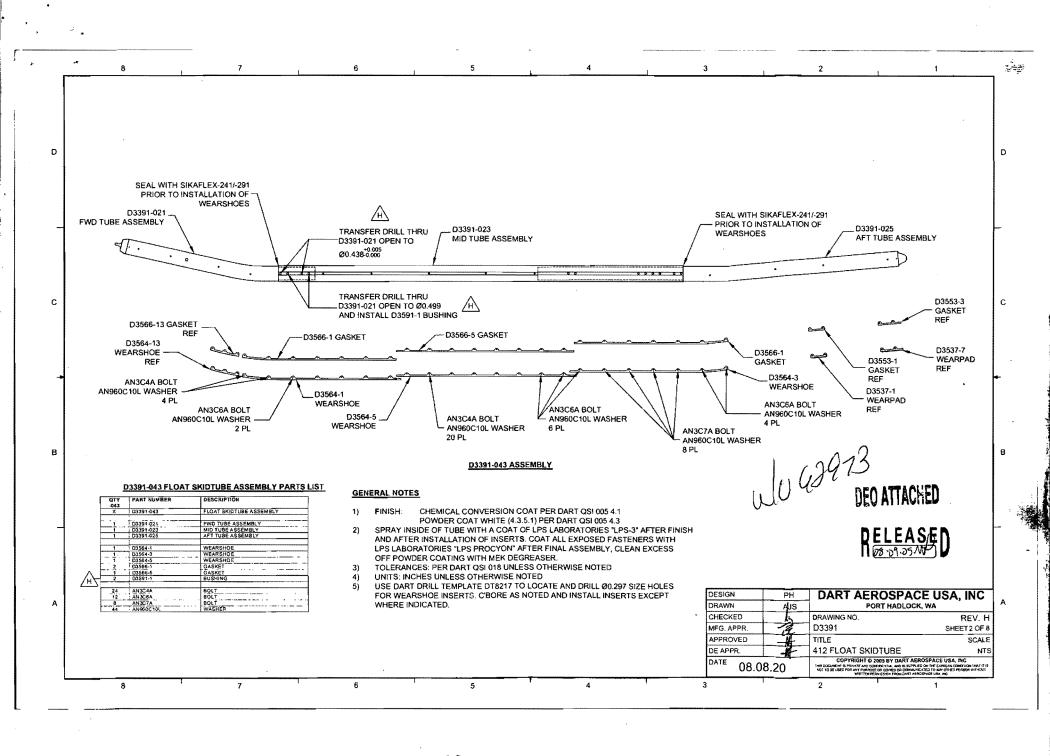
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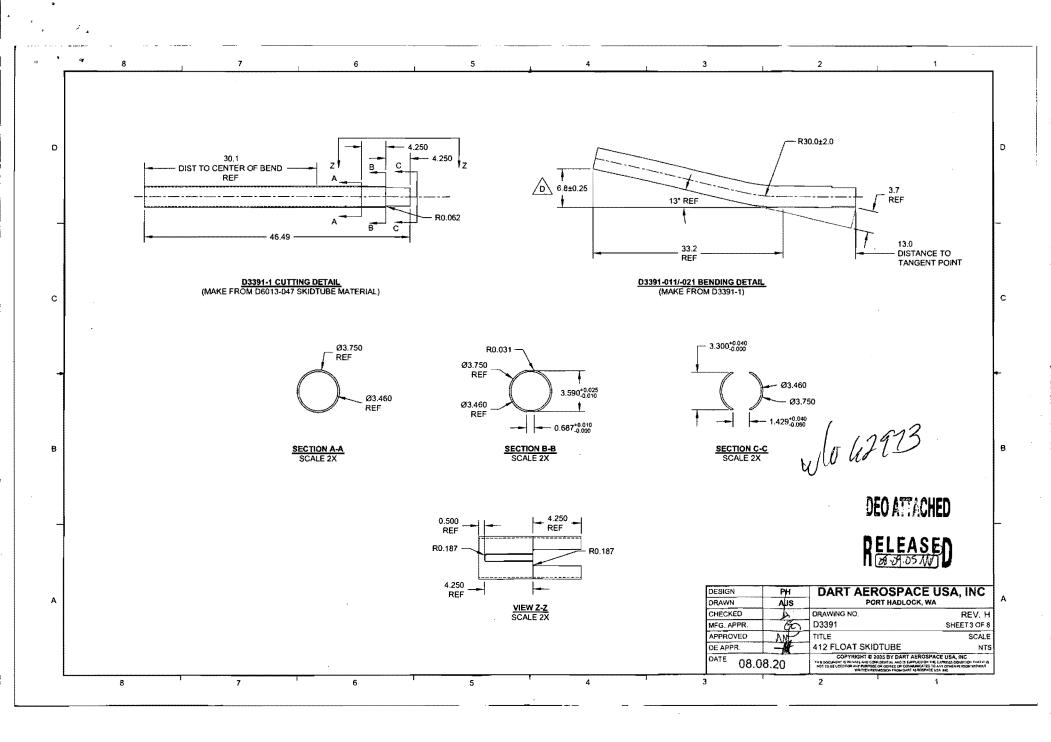
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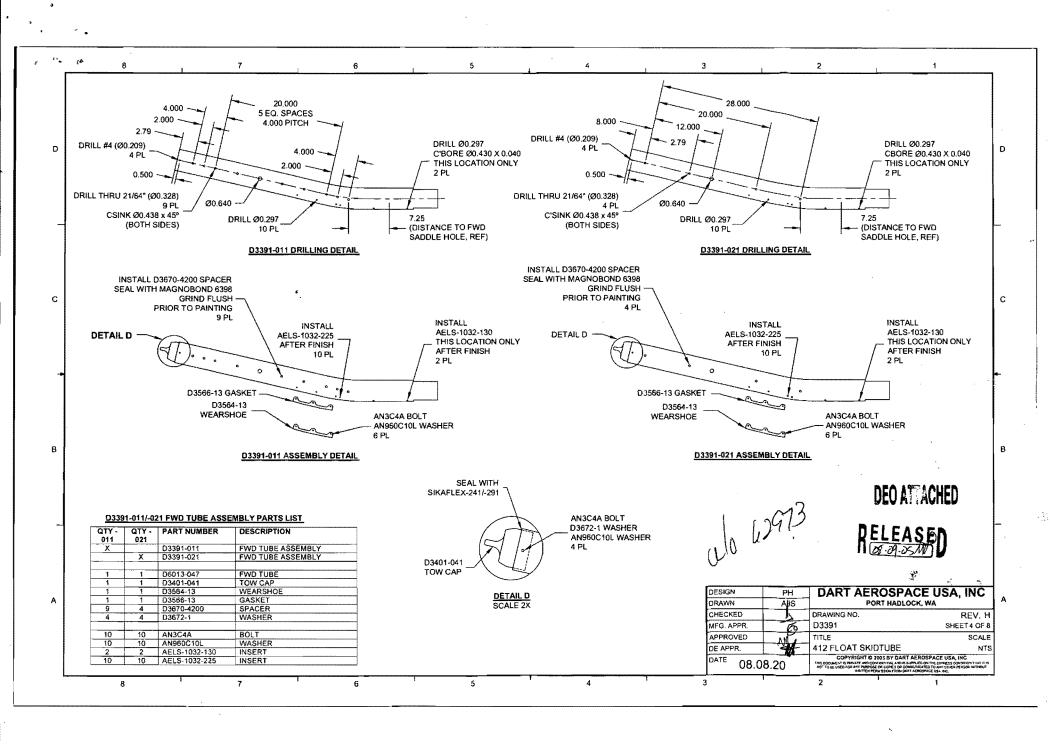
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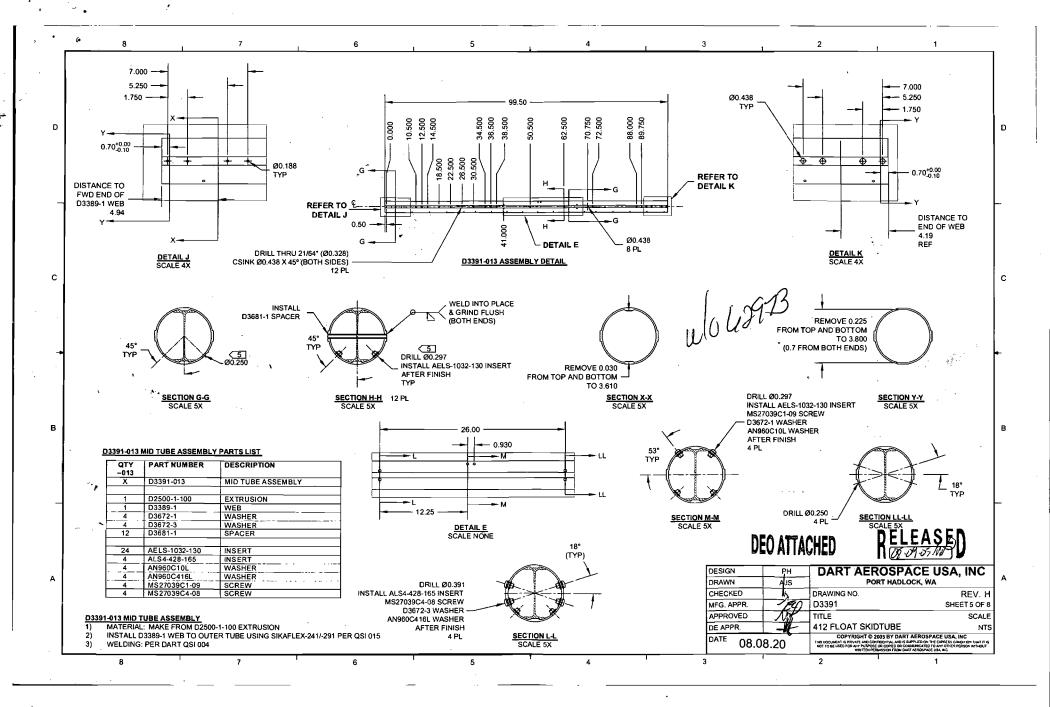
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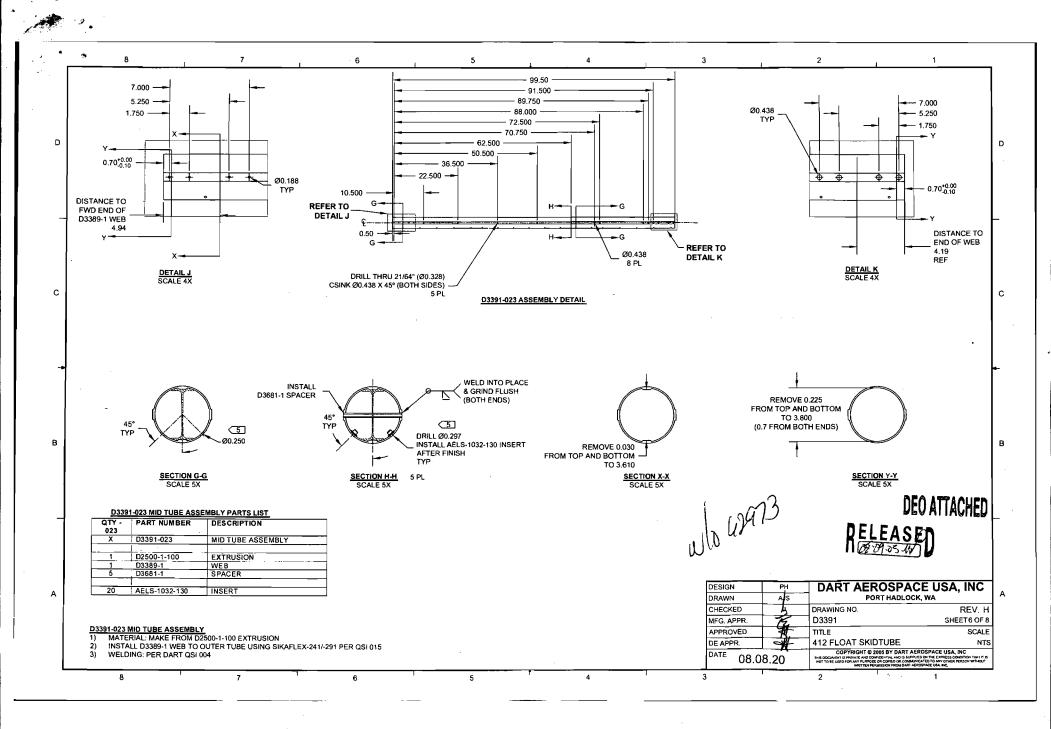
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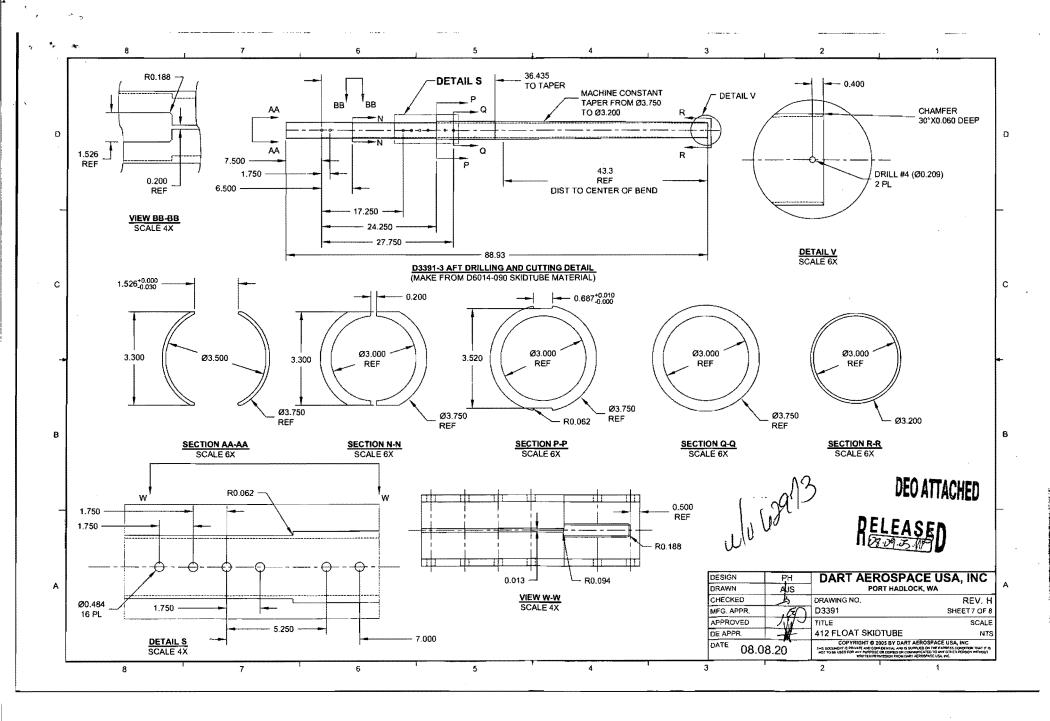
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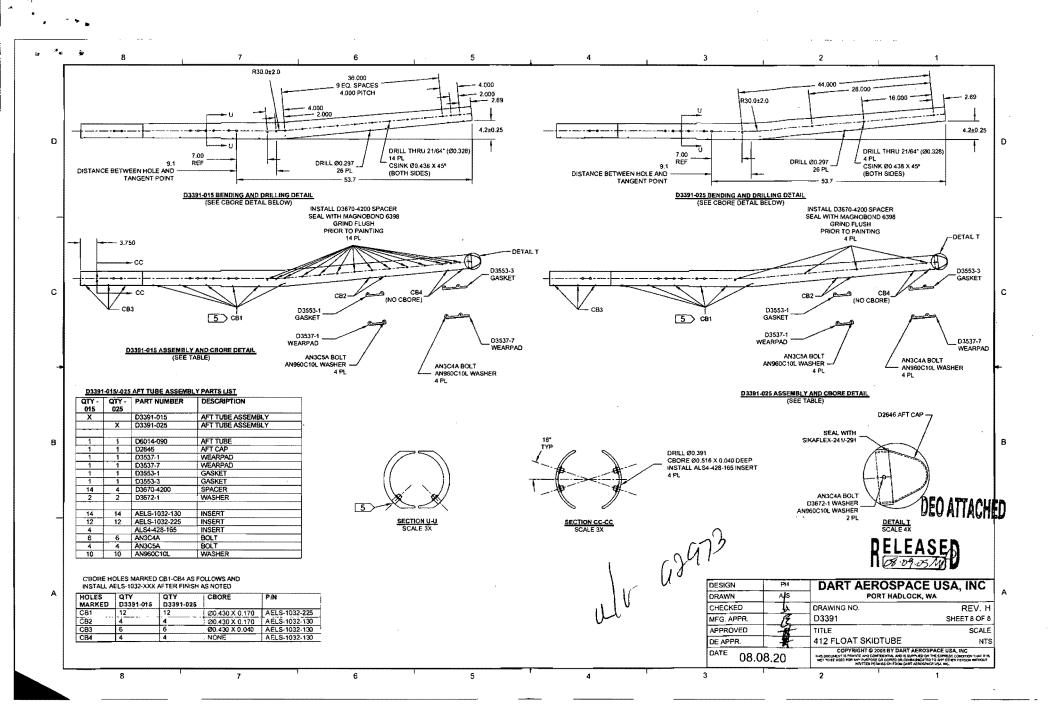
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DATE	STEP	Description of NC	Description of NC Corrective Action Section B Verification					Approval			
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		QC Inspector			

DRAWING	NO. TITLE		REV. H	DART AEROSPACE US	A, INC D.E.O. NO.	SHEET NO.	SCALE
D3391	412 FLOA	T SKIDTUBE	,	ENGINEERING ORD	D3391-H-1	SHEET 1 OF, 1	NTS
DRAWN	A)	CHECKED		MFG. APPR.	APPROVED My	DE APPR.	
DATE	09.09.23	DATE	04.04.24	DATE 09/09/25	DATE 09/09/30	DATE 09/09/3	. D

#### **PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

#### **CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

2) SPRAY INSIDE OF TUBE WITH A COAT-OF-LPS LABORATORIES "LPS-3" AFTER FINISH-AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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NO. 4250

# AWS D17.1.2001 QUALIFICATION TEST RECORD

2 /// 14
Name: Darclay 2410//
Job number: 62677
Part number: <u>\( \) 3391 - 023</u>
Description: 339/
Welding Process: Tig[X] Mig[]
Base materiel:
Current: AC[\subseteq] DC[ ]

## TEST REQUIREMENTS AND RESULTS

Visual: Penetration:	pass[\f] pass[\f]	fail[ ] fail[ ]
UNACCEPTABLE		
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[\f] pass[\f] pass[\f] pass[\f] pass[\f] pass[\f]	fail[ ] fail[ ] fail[ ] fail[ ] fail[ ]
Qualifier (June 1) Welder Kanday Mills		est Coupon <u>//-04-28</u> est Coupon <u>//-04-28</u>

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

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